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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ZHEN, LI B	
ART UNIT	**PAPER NUMBER**
2126	4

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/382,621	REED ET AL.	
	Examiner	Art Unit	
	Li B. Zhen	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,2,6-13,17-24 and 28-32 is/are rejected.

7)☒ Claim(s) 3-5,14-16 and 25-27 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Allowable Subject Matter

1. Claims 3 – 5, 14 – 16, and 25 – 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Specification

2. Applicant referred to a plurality of references in the specification: p. 2, lines 1 – 4; p. 5, line 28 – p. 6, line 3; p. 6, lines 15 – 17. These references are not checked. The examiner requests a copy of the references so that they can be fully considered.

Claim Objections

3. Claim 12 is objected to because of the following informalities: claim 12 (line 1) refers to the system of claim 1; however, claim 1 is a method claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 6 – 13,17 – 24 and 28 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,078,932 to Haye in view of U.S. Patent No. 6,360,213 to Wagstaff.

As to claim 1, Haye teaches input parameter comprises at least one extent that defines a range of tracks between a beginning track and end track (a data collection, as indicated in Step 34, represented in any appropriate format such as a list of devices each containing a list of track extents; column 5, lines 23 – 33). Haye does not explicitly teach merging the parameter list according to a threshold.

However, Wagstaff teaches receiving a plurality of input parameters (hybrid target index), determining whether a number of the input parameters (hybrid target index) exceeds a threshold (system also stores appropriate "thresholds" for each of the multiple representations in the hybrid target index; column 10, lines 50 – 67) number of parameters that are capable of being included in the command (request to create a target index; column 9, lines 10 – 23), merging content (compressed list representation) of multiple input parameters into at least one output parameter (calculation might indicate that the row list associated with the Ohio customers should be in compressed list representation; column 10, lines 38 – 50) if the number of input parameters exceeds the threshold number (a compressed list representation may have a lower threshold T.sub.1 and an upper threshold T.sub.u.; column 10, line 38 – column 11, line 3), wherein the content of the input parameters is included in a number of output parameters that does not exceed the threshold (so long as the value of R remains between these values, the compressed list representation is deemed proper; column 10, line 38 – column 11, line 3), and including the output parameters with the command (after the hybrid target index has been defined, the system must now process each of the rows in the table on which the index is created; column 9, lines 47 – 50).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of merging a parameter list according to a threshold as taught by Wagstaff to the invention of Haye because merging the parameter list would require less memory to execute the command.

As to claim 11, this is a system claim that corresponds to method claim 1; note the rejection to claim 1 above, which also meets this system claim.

As to claim 23, this is a product claim that corresponds to method claim 1; note the rejection to claim 1 above, which also meets this product claim.

As to claims 2, 12 (also note the objection to claim 12 above), and 24, see the rejection to claim 1 above.

As to claims 6, 17, and 28, Haye as modified teaches merging multiple input tracks into one output extent (a compressed list representation may have a lower threshold T.sub.1 and an upper threshold T.sub.u.; column 10, line 38 – column 11, line 3 of Wagstaff). As to the output extent as having a beginning track and an ending track of the a last of the multiple input tracks, the compressed list of Haye as modified would obviously still include all the input parameters.

As to claims 7, 18, and 29, Haye teaches determining whether control data is stored in tracks between the tracks of the input extents (device and extent determinator program 24 obtains information concerning the device type and the source data extent to determine, for example, the type of copy or backup operations supported by the device type, Fig. 1; column 4, lines 23 – 31). As to avoid including any control data

tracks in the tracks defined in the output extents, Haye as modified does not include information concerning the device type in the list of track extents.

As to claims 8, 19, and 30, Haye teaches a copy command (point-in-time backup operation) to copy the track ranges defined in the output extents (list of track extents; column 5, lines 23 – 33) and storing a duplicate copy (backup of the data collection) of the data in the track ranges defined in the output extents (point-in-time backup of the data collection can be obtained by backing up each extent; column 5, lines 23 – 67).

As to claims 9, 20, and 31, Haye teaches a point-in-time copy command (point-in-time backup operation) that indicates in data structures (list of track extents; column 5, lines 23 – 33) that the tracks in the output extents included as parameters are subject to a point-in-time copy relationship (point-in-time backup of the data collection can be obtained by backing up each extent; column 5, lines 23 – 67).

As to claims 10, 21, and 32, Haye as modified teaches the data in the tracks in one output extent subject to the point-in-time copy relationship are only copied to the target tracks if the data in one track in the output extents is modified (point-in-time backup of the data collection can be obtained by backing up each extent; column 5, lines 23 – 67 of Haye). As to only copying data to the target tracks only if one track in the output extents is modified, Haye as modified teaches merging the list of extents (see the rejection to claim 1).

As to claims 13 and 22, Haye teaches a second processor (Controllers 12, 14, and 16, Fig. 1) in communication with the first processor (Host Computer 10, Fig. 1) and having access to the storage device (data storage device 18, 20, and 22, Fig. 1);

means implemented in the first processor to communicate the command including the output extent to the second processor (host computer 10 executes one or more computer programs 24, 26, 28, 30, and 32 that control copy and backup operations of source data stored on the devices 18, 20, and 22, Fig. 1; column 4, lines 13 – 30); and

means implemented in the second processor, for performing the point-in-time copy operation (controllers 12, 14, and 16 are coupled via I/O channels to one or more data storage devices 18, 20, and 22, respectively, Fig. 1; column 4, lines 13 – 22).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,212,531 to Blea et al. teaches performing point-in-time copy using a snapshot function.

U.S. Patent No. 6,205,446 to Mittal et al. teaches merging multiple knowledge bases into one optimized and compressed knowledge base.

U.S. Patent No. 6,105,076 to Beardsley et al. teaches performing data transfer operations on user data.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (703) 305-3406. The examiner can normally be reached on Mon - Fri, 8am - 4:30pm.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Li B. Zhen
Examiner
Art Unit 2126

lbz
June 12, 2003

Sue Lao